Claims

1. (Original) A circuit arrangement for operating an electric motor in a direct voltage source, in particular for operating a permanent-magnet-excited DC motor in the direct voltage network of a motor vehicle, having a rotary position transducer for detecting the rotary position of the rotor, and having an electronic commutation controller for switching over the current in the armature winding of the stator as a function of the position of the rotor, characterized in that the rotary position transducer (32) is positioned relative to the stator (12) for an early commutation, and that the actual commutation time can be set by means of a delay correction, ascertained by measurement for the motor, in the electronic commutation controller (30).

2. (Original) The circuit arrangement of claim 1, characterized in that the electronic commutation controller has a digital signal processor or a microcontroller (30) with a delay arrangement (T, T1, T2).

3. (Currently amended) The circuit arrangement of claim 1 ~~or 2~~, characterized in that the delay arrangement includes timing members (T1, T2) which control the power end stages (22, 24) of the armature winding coils (14, 16).

4. (Currently amended) The circuit arrangement of ~~one of the foregoing claims~~ claim 1, characterized in that as the rotary position transducer, a bipolar Hall IC (32) is provided.

5. (Currently amended) The circuit arrangement of ~~one of the foregoing claims~~ claim 1, characterized in that the amount of the delay between the signal of the rotary position transducer (32) and the signal output of the commutation controller (30) is ascertained by a measuring device (34) and stored in a permanent

memory (T) of the commutation controller (30).

6. (Currently amended) The circuit arrangement of ~~one of the foregoing claims~~ claim 1, characterized in that the armature winding of the motor (10) has two oppositely wound coils (14, 16), which can be connected to the direct voltage source (26, 28) in alternation via two electronic switches (22, 24) and in a manner chronologically variably delayed by the commutation controller (30).

7. (Original) A method for operating an electric motor in a direct voltage source, in particular for operating a permanent-magnet-excited DC motor in the direct voltage network of a motor vehicle, having a rotary position transducer for detecting the rotary position of the rotor, and having an electronic commutation controller for switching over the current in the armature winding of the stator as a function of the position of the rotor, characterized in that by means of the mechanical positioning of the rotary position transducer (32), an early commutation time is set which afterward, by means of a correction ascertained by measurement for each motor (10), is delayed in the electronic commutation controller (30) to the optimal commutation time of the motor (10), taking into account mechanical, magnetic and/or electrical tolerances.

8. (Original) The method of claim 7, characterized in that the delay in the output signals of the electronic commutation controller (30) is effected as a function of rpm.

9. (Currently amended) The method of claim 7 ~~or 8~~, characterized in that the signals for the commutation time are furnished by a rotary position transducer (32) to a commutation controller (30), are stored in memory by the latter, and are delayed by waiting cycles, determined by an external measuring device (34), after the signal change in the rotary position

transducer (32) is detected.

10. (Currently amended) The method of ~~one of claims 7 through 9~~ claim 7, characterized in that two oppositely wound armature coils (14, 16) of the motor (10) are supplied with current in alternation and chronologically variably delayed via two electronic switches (22, 24).